TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

REMOTE TREATMENT OF RH SOILS AND OTHER SOLID WASTES CONTAMINATED WITH ORGANICS

Identification No.: RL-MW05
Date: October 2001

Program: Waste Management
OPS Office/Site: Richland Operations Office/Hanford Site
PBS No.: RL-CP02
Waste Stream: 3486 – Feed to Commercial Thermal Treatment, 3490 – M-91 Feed
TSD Title: 173 – M-91 Facility, 206 M-91 Facility
Operable Unit (if applicable): N/A
Waste Management Unit (if applicable): N/A
Facility: Future M-91 Facility.

Priority Rating:

This entry addresses the "Accelerated Cleanup: Paths to Closure (ACPC)" priority:

____ 1. Critical to the success of the ACPC.
_X_ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high life-cycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays).
____ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Remote Treatment of RH Soils and Other Solid Wastes Contaminated With Organics.

Need/Opportunity Category: *Technology Need* -- There is no existing or currently identified technology capable of solving the Site's problem (i.e., technology gap exists, no baseline approach has been identified).

Need Description: Develop technologies to treat RH soils and other granular materials contaminated with hazardous organic compounds. Low-cost remote thermal or non-thermal treatment methods will be needed to process the waste to meet the land disposal restrictions (LDR). Adding the remote handling capability to existing or emerging organic treatment technologies will require substantial development.

Schedule Requirements:

Earliest Date Required: 2007

Latest Date Required: 2013

Technology needs to be established between end of FY 2007 (conceptual design start) and 2013 (start of operations), to support the M-91 facility baseline.

Problem Description: Small volumes of RH waste containing organics are expected. Because the waste is remote handled and the volumes are low, it is unlikely that there will be a commercial capacity for treatment of the waste.

Potential Life-Cycle Cost Savings of Need (in $000s) and Cost Savings Explanation: No measurable cost savings are expected. This need is to establish method to treat a waste stream where no method currently exists

Benefit to the Project Baseline of Filling Need: Establish treatment method.

Relevant PBS Milestone: A2G-08-109 M-91-15 Complete Acquisition of Facilities and Initiate Treatment of RH and Large Container (CH) LLMW

Functional Performance Requirements: The technology must be able to remotely handle and treat RH solids, such as organic contaminated soils, to meet LDR standards. Generation of secondary waste is discouraged and, if unavoidable, the secondary waste must be minimized and preferably be in a solid form. The technology must be acceptable to the public and the regulators. The process must have a high degree of reliability and the system must be easy to maintain and clean. The system design should allow for construction of a mobile treatment unit.

Work Breakdown Structure (WBS) No.:	***TIP No.:***
1.2.2	N/A

Justification For Need:

Technical: No available technology to treat RH soils contaminated with hazardous organics.

Regulatory: The M-91 Milestone required submittal of a Management Plan in June 1999. The plan included RH soils contaminated with hazardous organics. M-91 also requires that treatment be initiated by June 2008.

Environmental Safety & Health: There are occupational and health concerns associated with storing and handling the RH MLLW organic waste.

Cultural/Stakeholder Concerns: Complete the cleanup of the Hanford Site, including small difficult waste streams.

Other: None identified.

Current Baseline Technology: At present there is no baseline plan to treat this waste. Likely technologies will be thermal treatment or an alternative organic removal or destruction technique.

End-User: Waste Management.

Contractor Facility/Project Manager: TBD.

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Waste volume, m^3	22.5 m^3
Waste form	RH MLLW soils contaminated with organics
Waste stream I.D.	3486, 3490
Contaminants and co-contaminants	Beta and gamma radiation, EPA Codes D001-D043, F001-F005, PXXX, and UXXX
Function of technology	LDR technology
Source category	Various Hanford Site programs